

FIREFLEX

PVC/PVG SOLID WOVEN CONVEYOR BELT

Fireflex belts consist of solid woven fabric dipped in PVC paste, combined with PVC or nitrile rubber covers through vulcanisation. These belts offer excellent flame-retardant and antistatic properties with high tensile strength relative to weight, good integrity with no delamination, and outstanding impact and rip resistance.

Fireflex is ideally suited for applications requiring flame resistance and antistatic performance, including coal mines, power stations, chemical plants, and metallurgical industries. Applicable standards include DIN 22109, AS 4606, BS 3289, SANS 968:2024, and SANS 971:2013.

PVC refers to a solid woven belt with PVC covers. Non-pressed PVC belts are suitable for dry conditions with incline angles of up to 16 degrees, with cover thickness not exceeding 0.8 mm.

PVG refers to a solid woven belt with PVG cover (Nitrile Rubber). This improves trough-ability, moisture and slip resistance, low temperature resistance, elongation, and wear resistance. PVG belts may have PVG covers on both sides or PVC on the bottom cover.

PHYSICAL PROPERTIES

Class Rating	Min Tensile Strength N/mm (Warp)	Min Tensile Strength N/mm (Weft)	Carcass Thickness	Carcass Weight	Cover Grade Recommended Thickness mm (PVC)	Cover Grade Recommended Thickness mm (PVG)	Min Pulley Diameter mm
680	680	265	6.5	8.5	1.0 x 1.0	1.5 x 1.5	400
800	800	320	5.9	9	1.0 x 1.0	1.5 x 1.5	500
1000	1000	350	7.5	9.7	1.0 x 1.0	2.0 x 2.0	630
1250	1250	350	8.5	11	1.0 x 1.0	2.0 x 2.0	750
1400	1400	450	9	11.5	1.0 x 1.0	2.0 x 2.0	750
1600	1600	450	9.5	12.3	3.0 x 2.0	2.0 x 2.0	800
1800	1800	450	10	13	3.0 x 2.0	3.0 x 3.0	800
2000	2000	450	10.5	13.6	3.0 x 2.0	3.0 x 3.0	1000
2500	2500	450	12.5	14.5	3.0 x 2.0	3.0 x 3.0	1200
3100	3100	450	17	17	3.0 x 2.0	3.0 x 3.0	1500

Mechanical properties of cover (SABS 971-2003)			
Item	Tensile strength Mpa (min)	Elongation at break % (min)	Abrasive wear mm ³ (min)
PVG	9	350	250
PVC	9	250	250

*Refer to SANS 968

Additional Physical Properties					
Properties	Tensile strength at break (N/mm) >=		Elongation at break (%) >=		Tear strength
Grade	Longitudinal	Transverse	Longitudinal	Transverse	KN min
680S	680	265	15	18	1.0
800S	800	280	15	18	1.2
1000S	1000	300	15	18	1.6
1250S	1250	350	15	18	1.6
1400S	1400	350	15	18	1.6

APPLICATIONS

Fireflex conveyor belts are designed primarily for coal mining applications and are also suitable for power generation facilities and coal preparation plants. These belts meet all fire protection requirements, including SANS 971 and DIN 22102, while offering improved abrasion resistance (SANS 4649:2001) and antistatic properties in accordance with ISO 284:2012.

FEATURES

The belt carcass consists of multiple plies of EP (polyester, nylon) fabric separated by fire-resistant interlayers and protected by fire-resistant rubber covers. The antistatic rubber covers minimise the risk of fire propagation or explosion within underground mine environments.

ADVANTAGES

- Longer belt life.
- No carcass failure.
- Superior clip joint strength.
- The use of conventional multi-ply splicing techniques to improve splice life.
- Reduced pulley size requirements.

Reference	Pulleys on which belt wrap is more than 60° of rated tension			Belt wrap is less than 60° of rated tension		Recommended max operating tension kN/m
	60% - 100%	40% - 60%	40%	60% - 100%	60%	
630/3	400	315	250	315	250	63
800/3	400	315	250	315	250	80
1000/3	500	400	315	400	315	100
1250/4	630	500	400	500	400	125

